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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/543,767	04/05/2000	Yasuhiro Sato	00FN006US	6702

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MCGINN & GIBB  
8321 OLD COURTHOUSE ROAD  
SUITE 200  
VIENNA, VA 22182-3817

EXAMINER

CHOWDHURY, TARIFUR RASHID

ART UNIT PAPER NUMBER

2871

DATE MAILED: 04/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/543,767

Applicant(s)

SATO, YASUHIRO

Examiner

Tarifur R Chowdhury

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 5-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

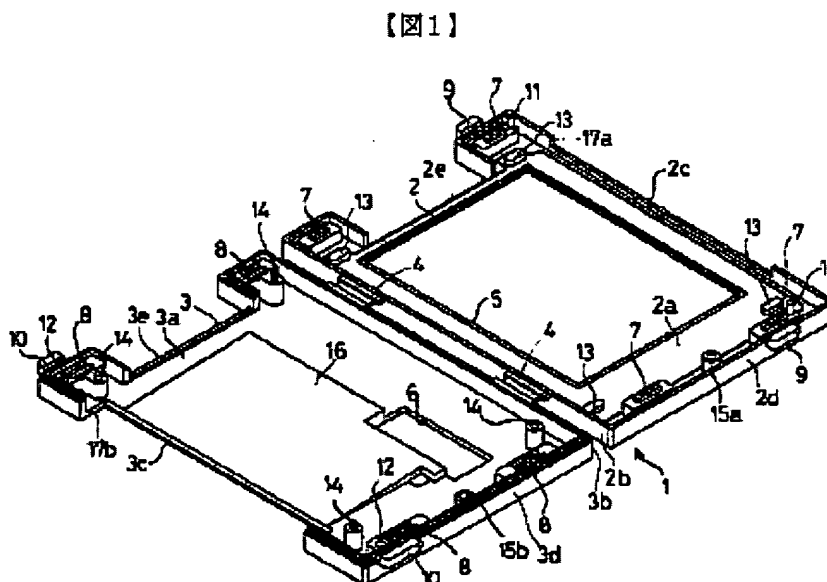
1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

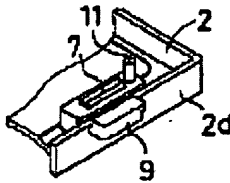
2. **Claims 1, 7-9 and 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makoto Yoshimura (Makoto), JP 08-114802 A (provided by the applicant) in view of Hashimoto, USPAT 5,442,470.**

3. Makoto shows in Figs. 1 and 3, a liquid crystal display having a liquid crystal display panel (21) held between an upper frame (2) and a lower frame (3), the upper frame (2) having a display window (22a) (Fig. 6), wherein:

- the upper frame (2) and the lower frame are coupled to each other via a hinge (4);  
(4);



【図3】



- the lower frame (3) has a first protrusion (12) formed in the vicinity of its end, and the upper frame (2) has a second protrusion (11) formed in the vicinity of its end, the second protrusion (11) to be fitted to the inside of the first protrusion (12); and
- the first protrusion (12) and the second protrusion (11) are formed to differ from each other in protruding direction.

Makoto does not explicitly disclose the shape of the hinge and thus fail to disclose that the frames are coupled via a foldable U-shaped portion.

Hasimoto discloses a liquid crystal display device wherein the display panel wherein the display panel and the circuit boards are attached via a foldable U-shaped portion (Fig. 2). Hashimoto also discloses that by attaching two frames by a foldable U-shaped portion it is possible to uniformly distribute stresses and thus obtain a display device greatly improved both in resistance to vibration and to impact. Hashimoto also discloses that such a configuration reduce the overall weight of the apparatus (col. 2, lines 65-68, col. 3, lines 1-4 and 17-26).

Hasimoto is evidence that ordinary workers in the art of liquid crystal would find a reason, suggestion or motivation to use a foldable U-shaped portion.

Therefore, it would have been obvious to one of ordinary skill in the art at the

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time of the invention was made to modify the display of Makoto such that attaching the frames with a foldable U-shaped portion so that a display device greatly improved both in resistance to vibration and to impact is obtained as well as the overall weight is reduced, as per the teachings of Hashimoto.

Accordingly, claims 1, 7-9 and 11-18 would have been obvious.

**4. Claims 5, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makoto in view of Hasimoto as applied to claims 1, 7-9 and 11-18 above and in view of Toshiya et al., (Toshiya), JP 06-051308 A.**

5. Makoto does not explicitly disclose that the frames are vacuum formed of resin material.

Toshiya discloses a liquid crystal display device wherein the frame is vacuum formed of resin material. Toshiya also discloses that when the frames are vacuum formed of resin material, it is possible to obtain a small-sized, thin and durable liquid crystal display device (abstract).

Toshiya is evidence that ordinary workers in the art of liquid crystal would find a reason, suggestion or motivation to use frames that are vacuum formed of resin material.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the device of Makoto such that forming the frames of resin material obtained by vacuum molding so that a display device of small-sized, thin and durable is obtained, as per the teachings of Toshiya.

As to claim 6, the use of screen-printing as an electro-conductive pattern forming method is common and known in the art and thus would have been obvious to avail a proven technology.

***Response to Arguments***

6. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument that Makato's invention is directed to facilitate the handling of a plane display device in contrast to the instant invention is directed to a liquid crystal display panel held between an upper frame and a lower frame, it is respectfully pointed out to applicant that Makato invention is in fact directed to a liquid crystal display device wherein the display panel is held by two holding members. The two holding members are considered as the upper frame and the lower frame of the instant invention since both the holding members of Makato and frames of the instant invention hold the display panel in between. As to the limitation of using foldable U-shaped portion to couple the two holding members (frames in the instant invention), the new reference Hashimoto is used.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

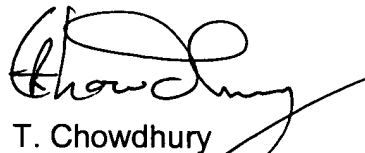
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R Chowdhury whose telephone number is (703) 308-4115. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William L Sikes can be reached on (703) 305-4842. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7005 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

TRC  
April 5, 2003



T. Chowdhury  
Primary Examiner  
Technology Center 2800